

REMARKS

Claims 8-63 remain pending in the present application. Claims 1-7 have been cancelled. Claims 8, 10, 12, 14, 16, 19, 22, 24, 26, 28, 30, 33, 36, 38, 42, 44, 47, 50, 52, 56, 58 and 61 have been amended. Basis for the amendments can be found throughout the specification, claims and drawings as originally filed.

CLAIM OBJECTIONS

Claims 10, 16, 19, 24, 30, 33, 38, 44, 47, 52, 58 and 61 are objected to because of informalities. The claims have been amended to overcome the objection. Withdrawal of the objection is respectfully requested.

REJECTION UNDER 35 U.S.C. § 112

Claims 14, 28, 42 and 56 recite the limitation "the distance". There is insufficient antecedent basis for this limitation in these claims. The claims have been amended to overcome the rejection. Reconsideration of the rejection is respectfully requested.

REJECTION UNDER 35 U.S.C. § 102

Claims 1 and 3-63 are rejected under 35 U.S.C. § 102(e) as being clearly anticipated by Kong (U.S. Pat. No. 6,275,186). Applicant respectfully traverses this rejection. Independent Claims 8, 22, 36 and 50 have been amended to include the limitation "evaluating the probability that two or more base stations identified using respective pilot pseudo noise offset measurements are within range and have a pilot

signal receivable by a mobile station concurrently, thereby confirming a valid identification of the two or more base stations”.

In the present invention, the mobile performs calculations to determine the probability that a pilot signal originated from a particular base station (page 2). No information is sent on pilot signals. The only means of identifying the origin of a pilot signal is the timing offset of the pseudo-noise signal (or “PN-code” offset). However, PN-codes are ambiguous because time offset may be altered due to significant signal propagation delays and, furthermore, PN-codes themselves are typically re-used by multiple-base stations. Thus, a PN-code offset does not uniquely equate to a base station. Geo-location algorithms use PN-code offsets and base station identifications to triangulate/trilaterate mobile positions. However, this cannot be done without identifying each PN-code with a unique base station (pages 6-7). The present invention correlates context information (after ranking/weighing individual elements of that information) at the time of receiving the pilot signals in order to resolve the ambiguity (page 7). In one embodiment, the context information is the timing of the other pilot signals or the base station identifications that they implicate at face value.

Kong does not disclose resolving which base station transmitted a received pilot signal. Kong discloses merely that “the position of a BS transmitting the pilot signal” is obtained (column 4, line 51). Kong does not disclose how the BS is “obtained”. Thus, Kong fails to disclose “evaluating the probability that two or more base stations identified using respective pilot pseudo noise offset measurements are within range and have a pilot signal receivable by a mobile station concurrently, thereby confirming a valid identification of the two or more base stations.”

Kong acknowledges that "it is difficult to compensate for the multipath propagation delay error" in measuring pilot pseudo noise offset (column 4, line 22). Pilot pseudo noise timing offset is used as an input to position location but is meaningless without additional information, i.e. the base station and its location, as Kong discloses. Kong's approach is to supplement the timing information with signal received power (or SIR). While Kong employs pilot SIR as an additional input to position calculation (because SIR varies with mobile location), Kong does not address the problem of identifying and confirming unambiguously which BS the pilot signal originated from. Thus Kong is susceptible to the problem that the present invention solves.

The Examiner's comment on page 4 asserts that Kong discloses inherently searching a database for all base stations having a pilot pseudo noise offset. This is inconsistent with the Kong specification including Examiner's pinpoint reference. The reason is that Kong assumes that a pilot offset uniquely identifies the base station it originated from. Kong makes no mention of the ambiguity or multiple base stations corresponding to one pilot offset. At most, Kong might imply inherently searching a database for a (or the) base station having a pilot pseudo noise offset.

Thus, Applicant believes Claims 8, 22, 36 and 50, as amended, patentably distinguish over the art of record. Likewise, Claims 9-21, 23-35, 37-49 and 51-63, which ultimately depend on one of Claims 8, 22, 36 and 50, are also believed to patentably distinguish over the art of record. Claims 1 and 3-7 have been cancelled. Reconsideration of the rejection is respectfully requested.

REJECTION UNDER 35 U.S.C. § 103

Claim 2 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Kong (U.S. Pat. No. 6,275,186) as applied to Claim 1 above, and further in view of Bi, et al., hereinafter Bi, (U.S. Pat. No. 5,970,414). Claim 2 has been cancelled. Reconsideration of the rejection is respectfully requested.

CONCLUSION

It is believed that all of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. Applicant therefore respectfully requests that the Examiner reconsider and withdraw all presently outstanding rejections. It is believed that a full and complete response has been made to the outstanding Office Action, and as such, the present application is in condition for allowance. Thus, prompt and favorable consideration of this amendment is respectfully requested. If the Examiner believes that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at (248) 641-1600.

Respectfully submitted,

Dated: March 23, 2005

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